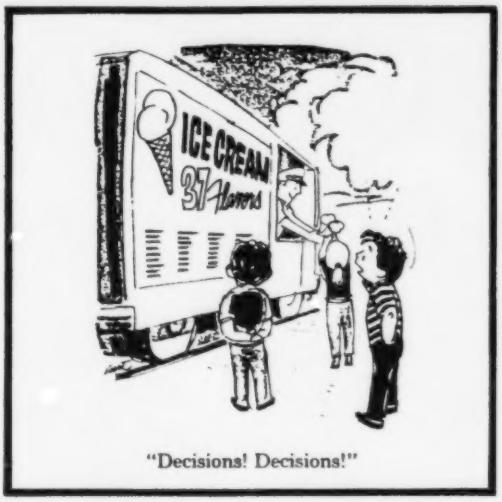
RP 88-200

Standards Of Performance For Retail Co-operatives



"Decisions! Decisions!"

"The boss challenged me to come up with a way to get inside Troy."

"Good welding job, Pat . . . there's just one problem."

Nova Scotia

Department of Industry, Trade and Technology

Hon. Donald W. Cameron, Minister

Standards Of Performance For Retail Co-operatives

Prepared by:
Christopher Lewis of the N.S. Co-operative Council with the assistance of Challenge '88 - S.E.E.D. Program of Employment and Immigration Canada.

Edited by:
Joe Foy of the Department of Industry, Trade and Technology.

Printed and distributed by:
Co-operatives Administration Branch of the N.S. Department of Industry, Trade and Technology, P.O. Box 9, Truro, Nova Scotia, B2N 5B6.

August 1988

89-04870/

Standards of Performance for Retail Co-operatives in Nova Scotia

TABLE OF CONTENTS

Page	
1	Introduction
2	Abbreviations
3	Table I - Financial Summary of Retail Co-operatives
4	Table II - Consolidated Operating Statement
5	Explanation of Reporting Procedure
9	Table III - Liquidity Ratios
12	Table IV - Solvency Ratios - Pie Graphs
13	Table V - Solvency Ratios
15	Table VI - Profitability & Efficiency Ratios
19	Where Do I Start?
25	Any Co-operative - Financial Statements and Ratio Calculations
34	Tables A 11 - 17 - Ratios by Co-op for Retail Co-ops with annual sales under $2m
42	Tables B 11 - 17 - Ratios by Co-op for Retail Co-ops with annual sales over $2m
42	Tables C 11 - 17 - Ratios by Co-op for Direct Charge Retail Co-ops

INTRODUCTION

This publication is a revision of a 1987 publication, and it is directed specifically toward the Board of Directors and managers of Retail Co-operatives. Information has been gathered from the annual reports of retail Co-operatives.

Statistical analysis have been prepared and explained to assist managers, directors, and members evaluate the operations of their own Co-operatives and to assist them in their planning process.

The Co-operatives are divided into three categories:

1. Sales under $2 million
2. Sales over $2 million
3. Direct Charge Co-operatives.

This publication has been prepared by Christopher Lewis, an employee of the N.S. Co-operative Council through the Canada Employment Challenge '88 Skills Development Program, and Stephanie Hayman, also an employee of the N.S Department of Small Business Development's Provincial Employment Program. We are greatly indepted to the Council and the government programs that made this project possible.

The success and demand for the last Standard's publication produced in 1987 encouraged us to prepare this edition. We hope you find it useful and valuable to your better understanding of your Co-operative.

If you have any inquiries, please feel free to contact us.

Fred A. Pierce, PAg.

Co-operatives Administrator

The following abbreviations are used throughout this publication:

Ave.	-	Average
CA	-	Current Assets
CL	-	Current Liabilities
LTD	-	Longterm Debt
m	-	Million
ME	-	Members' Equity
Std.	-	Standard
TA	-	Total Assets
TD	-	Total Debt (CL + LTD)
IC	-	Invested Capital
AP	-	Accounts Payable

TABLE I

Financial Summary of N.S. Retail Co-operatives (1987)

	N.S. Retail	%	Description
# Incorporated	55	22	of total of all Co-ops
Total Sales ($m)	113	25	of total of all Co-ops
Total Income ($m)	18	16	sales of all retail Co-ops
Total Expenses ($m)	16	14	sales of all retail Co-ops
Net Savings ($m)	2	11	income of all retail Co-ops
ASSETS			
Current ($000)	12026	40	of total assets
Inventory ($000)	7323	61	of current assets
Investments ($000)	5488	19	of total assets
Fixed ($000)	12327	41	of total assets
LIABILITIES			
Current ($000)	8506	28.5	of total assets
Longterm ($000)	6698	22.4	of total assets
Reserves ($000)	4672	15.7	of total assets
Shares & Loans ($000)	9965	33.4	of total assets
Total Members Equity ($000)	14637	49.1	of total assets

TABLE II

Consolidated Operating Statement
(N.S. Retail Co-operatives, 1987)

Area of Analysis	Under $2m Annual Sales		Over $2m Annual Sales		Direct Charge	
	Std.	Ave.	Std.	Ave.	Std.	Ave.
Sales of $000	1314	823	4726	3629	4343	4602
Income % of Sales	16.9	17.9	15.8	16.6	13	14.2
Expenses % of Income						
Staff	52	58	48	52	55	59
Occupancy	17	20	18	18	22	21
Interest	6	5	7	7	5	7
Miscellaneous	12	12	11	12	8	8
Savings	13	5	16	11	10	5

(See Tables A-12, B-12, C-12 for analysis by Co-op)

Occupancy Expenses % of Total Occupancy Expenses						
Heat, Light, Power	33.9	35.3	21.9	25.1	25.6	31
Depreciation	21	17.1	36.6	32.7	35	28.1
Repair/Maintenance	15.3	16.4	10.2	13.5	20.7	19.4
Other	29.8	31.2	31.3	28.7	18.7	21.5

(See Tables A-13, B-13, C-13 for analysis by Co-op)

Note: The standard is a reflection of the level of performance of the top 25% Co-operatives in each category.

The average is a reflection of all Co-operatives in the category, including those used in setting the standard.

EXPLANATION OF REPORT PROCEDURE

A number of ratios (explained in the following pages) are commonly used in the analysis of financial statements. The primary objective of this type of analysis is to identify the major trends in amounts and relationships over the life of the Co-operative.

However, ratio analysis is much more complex than simply calculating a few ratios. These ratios are useless if you do not understand what they are revealing about your Co-operative. Ratios often provide an early warning of major changes taking place which could affect the future success or failure of your Co-operative. Therefore, it is crucial to be able to interpret the information provided by financial ratios.

There are certain guidelines that can be helpful in detecting problems; these guidelines are known as standards. Standards are to be used as a model, or as an "ideal" situation. However, it is important to realize that standards are ONLY guidelines (standards are also useful if your Co-operative is having specific problems, eg. not enough working capital or losses, and you are not sure where the problem may be).

Acceptable ratios vary from one industry to the next and even among similar Co-operatives. A deviation of 5% between your ratio and the standard is no cause for concern, since it is a normal deviation. However, if the deviation is greater than 10% you should question why. There may be a reasonable explanation for this deviation, yet it may be possible that you are having or are heading for problems.

There are three categories of ratios that should be calculated:

1. Liquidity
2. Solvency
3. Profitability and Efficiency.

Liquidity ratios measure the ability to pay bills as they come due. Solvency ratios measure the equity position of the members and creditors. Profitability and efficiency ratios measure the business operation results of your Co-operative.

LIQUIDITY RATIOS

A. Current Ratio

The most common liquidity ratio used in financial analysis is the current ratio. The current ratio measures the ability of the Co-op to pay its current debts as they come due. The ratio is very easy to calculate; simply divide the current assets by the current liabilities (Current Ratio = CA / CL).

A current ratio of 2:1 (two to one) or higher is generally acceptable in most industries. This means that for every two dollars in current assets, there is one dollar in current liabilities.

Therefore, a Co-op should theoretically have twice the level of current assets in comparison to current liabilities. However, this is seldom true in practice. Many Co-ops manage to operate with a current ratio below 2:1.

Co-operatives with high inventory turnovers (lower levels of inventory) or no credit sales (no accounts receivable) can operate with a current ratio below 2:1. Lower levels of inventory and/or no accounts receivable yield lower levels of current assets; this gives a lower current ratio. A low current ratio may be improved by issuing more longterm debt and less current debt.

However, a current ratio below 1:1 is unacceptable because there is less than one dollar in current assets for every dollar in current liabilities. Co-operatives with a current ratio below 1:1 generally have a difficult time in paying their current

debts.

Very high current ratios may indicate a poor use of funds. A high current ratio suggests that a Co-op is not utilizing its current assets wisely (ie. it has too much money in current assets). The problem here is usually with cash or bank deposits. The Co-op may wish to transfer some money to either outside investments or to fixed assets (buildings, land, and equipment). This may reduce the current ratio, while at the same time providing a more efficient use of the current assets.

B. Quick Ratio

Another liquidity ratio which is closely related to the current ratio is the quick ratio (also known as the acid-test ratio). The quick ratio is calculated using the same formula as the current ratio, the difference being that the quick ratio omits inventory from the current assets [Quick Ratio = (CA-Inventory) / CL]. The difference between the current ratio and the quick ratio is due to inventory. The quick ratio allows one to observe the effect of inventory on a Co-operative's liquidity.

C. Current Asset Turnover

A third ratio to mention here is the current asset turnover. In one sense, this ratio is more of an efficiency ratio than a liquidity ratio; however, it concerns a Co-operative's liquid assets. To calculate this ratio, simply divide sales by current assets (Current Asset Turnover = Sales / CA). The ratio measures the number of times that sales were greater than current assets.

A higher ratio indicates that the Co-operative is making a more efficient use of its liquid assets. This ratio is similar to the inventory turnover ratio which is discussed on page 16.

TABLE III

Liquidity Ratios	Under $2m Annual Sales		Over $2m Annual Sales		Direct Charge	
	Std.	Ave.	Std.	Ave.	Std.	Ave.
1. Current Ratio	3.5	3.2	3.6	3.2	1.6	1.4
2. Current Asset Turnover	9.4	7.6	9.1	8.5	14.3	16.3

(See Tables A-14, B-14, C-14 for analysis by Co-op)

SOLVENCY RATIOS

The capital structure of any given Co-operative consists of three factors:

(1) current liabilities (accounts payable, short-term bank loans),

(2) longterm debt (longterm bank loans, mortgages), and

(3) members' equity (surplus, reserves, shares, loans).

The sum of these three sections equals the Co-operative's total assets.

Solvency ratios show the percentage of total assets financed by each section. The current liabilities and the longterm debt comprise the portion of the total assets in which money is still owed to creditors by the Co-operative (and therefore the members). The ratio which represents the amount owed to creditors is known as total debt to total assets. To calculate the total debt to total assets ratio simply divide the sum of the current liabilities and the longterm debt by the total assets and then multiply by one hundred [TD to TA = [(CL + LTD) / TA] * 100].

Members' equity comprises the portion of the total assets owned by the Co-operative (and therefore the members). The ratio which represents the amount owned by the Co-operative is known as members' equity to total assets. To calculate the members' equity to total assets ratio, divide members' equity by total assets and then multiply by one hundred [ME to TA = (ME /

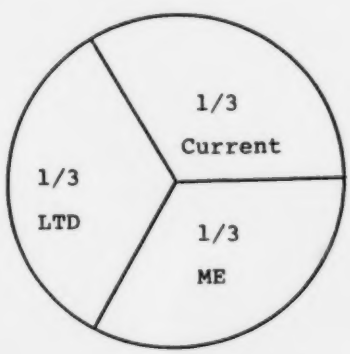
TA) * 100].

Creditors usually examine solvency ratios before they lend money. If "members' equity to total assets" is greater than "total debt to total assets", then creditors may be more willing to lend money, since the Co-operative will be in a better position to pay back the debt.

However, if "total debt to total assets" is too much greater than "members' equity to total assets", the creditor may view the Co-operative as a riskier investment. Creditors may fear that the Co-operative will be unable to pay back the debt; therefore, they may decide against lending their money. If they decide to lend their money, they will probably attach high interest rates to these loans.

The ideal capital structure, according to textbooks, is an equal division between the three sections (see diagram).

Textbook Structure



A level of debt higher than 2/3 leads to higher interest expenses and possibly even insolvency (inability to pay debts as they come due) or bankruptcy (the market value of the assets is less than the liabilities).

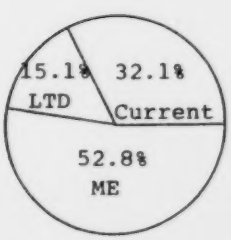
However, on the other extreme, financing assets with equity,

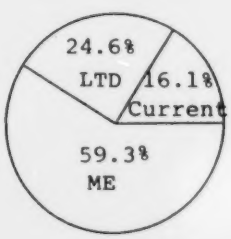
and no debt, is very inefficient. It is inefficient because of the financial restriction associated with it. For example, if a building requires major repairs or an expensive piece of equipment needs replacing, chances are that neither asset will receive the attention it demands. Members may not be able to afford to give the Co-operative the money that it needs. It would be more practical for the Co-operative to borrow money from a creditor and to pay it back over a period of time. Normally, inflation over this period of time will allow the Co-operative to pay back the debt with cheaper dollars (this concept is known as the time value of money).

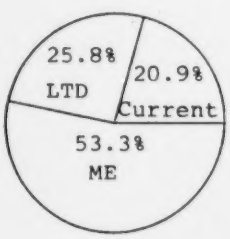
TABLE IV

Pie graphs

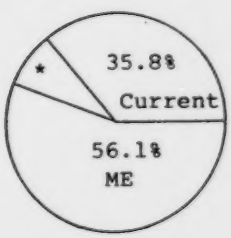
Standards

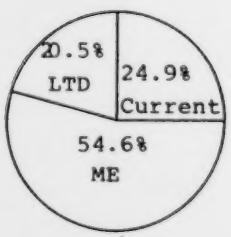


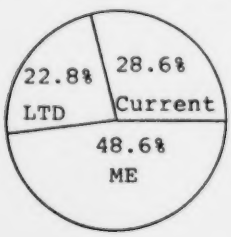




Average







* 8.1% LTD

Your Co-op

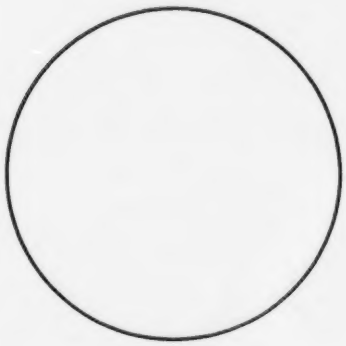


TABLE V

Solvency Ratios	Under $2m Annual Sales		Over $2m Annual Sales		Direct Charge	
	Std.	Ave.	Std.	Ave.	Std.	Ave.
3. LTD to TA	15.1	8.1	24.6	20.5	25.8	22.8
4. ME to TA	52.8	56.1	59.3	54.6	53.3	48.6
5. TD to TA	47.2	43.9	40.7	45.4	46.7	51.4

(See Tables A-15, B-15, C-15 for analysis by Co-op)

EFFICIENCY & PROFITABILITY RATIOS

It is important for a Co-operative to measure the performance of its operating activites for any given fiscal period, whether it be a week, a month, or a year. To determine the level of performance, financial analysts often employ various efficiency and profitability ratios. These ratios include:

(1) return on total assets,
(2) return on invested capital,
(3) return on sales,
(4) inventory turnover,
(5) day's sales uncollected, and
(6) average days payable.

A. Return Ratios

The "return" ratios measure the profitability of the Co-operative.

These ratios measure savings as a percentage of either total assets, invested capital, or sales, depending upon the ratio. As a rule of thumb, the higher the ratio the better the profitability.

To calculate these ratios simply divide savings (another name for net income or profit) by either total assets, invested capital or sales, depending upon which ratio is being calculated. Once the division has been completed, multiply by one hundred to get it in percentage terms.

For example, return on total assets equals savings divided by total assets, multiplied by one hundred [Return on Total Assets = (Savings / TA) * 100].

Low "return" ratios may be due to: (1) low savings (could be a result of low sales), or (2) a level of fixed costs too high to be covered by the sales generated (high expenses decrease the

level of savings).

In a stable business environment (one that does not change too much) it is best to compare current profitability ratios to past profitability ratios. This allows the Co-operative to chart its progress. Since the industry is stable, conditions will remain much the same, year after year. Any change will be due to the actions of management (for example, tightening control of costs or increasing the effort to improve sales).

In an unstable business environment (one with rapid change) it is best to compare profitability ratios with the ratios of Co-operatives of similar size. Since the environment is changing rapidly, it becomes difficult to compare the past performance with the present performance. However, Co-operatives in the same industry and of similar size are experiencing the same changes. Therefore, it makes more sense to make comparisons with other Co-operatives and with industry standards.

Although the grocery business is fairly stable, Co-operatives should compare their operating activities with those of other Co-operatives as well as with their past performance.

TABLE VI

Efficiency and Profitability Ratios	Under $2m Annual Sales		Over $2m Annual Sales		Direct Charge	
	Std.	Ave.	Std.	Ave.	Std.	Ave.
6. Return on TA	10	4	9.2	7.7	5.8	5.3
7. Return on IC	26.9	16.7	34.9	24.5	10.5	6.6
8. Return on Sales	2.3	1.2	2.5	1.9	1.2	0.7

(See Tables A-16, B-16, C-16 for analysis by Co-op)

B. Inventory Turnover

An efficiency ratio which every Co-operative should calculate is the inventory turnover. This ratio reveals the number of times that the Co-operative's average inventory has been sold during the year.

In order to calculate the ratio, the average inventory must first be determined. To do this, simply add beginning inventory to ending inventory and then divide by two. Once this has been done, divide sales by average inventory; the result is the inventory turnover (Inventory Turnover = Sales / Average Inventory).

The general rule of thumb here is the higher the ratio the higher the efficiency. However, it is possible to have a ratio which is too high. A high inventory turnover ratio can indicate understocking (the Co-operative has an insufficient volume of a particular product (s) to meet customer demand).

Understocking can cause the Co-operative to lose money due to a loss in sales. For example, a customer goes to the store with the intention of purchasing a particular product only to discover that the product is out-of-stock; therefore, the Co-operative has lost money because it has lost a sale.

Yet it is also possible to have a ratio which is too low. A low inventory turnover indicates overstocking (the Co-operative is stocking a higher volume of a particular product (s) than customers demand).

The Co-operative can also lose money by overstocking. The overstocked product is taking up valuable shelf space which could

be used to sell products which are more popular with customers. Steps should be taken to decrease inventory by reducing the level of the slow moving stock (perhaps a clearence sale on the product). A low inventory turnover ratio may also be an indication that the members of the Co-operative are doing less business at the Co-operative and more business elsewhere.

Some analysts prefer to calculate inventory turnover using cost of goods sold rather than sales. It makes no difference which is used; however, it is important to be consistent when making comparisons (a ratio calculated using cost of goods sold cannot be compared to one calculated with sales).

	Under $2m Annual Sales		Over $2m Annual Sales		Direct Charge	
	Std.	Ave.	Std.	Ave.	Std.	Ave.
9. Inventory Turnover	13.8	12.3	16.1	14	20.5	21.2

(See Tables A-17, B-17, C-17 for analysis by Co-op)

C. Day's Sales Uncollected Ratio

The Co-operative may also wish to have its day's sales uncollected ratio calculated. This efficiency ratio reveals the length of time taken to collect accounts receivable. To calculate, simply divide accounts receivable by charge sales and multiply by 365 days [Days' Sales Uncollected = (Accounts Receivable / Charge Sales) * 365].

The Co-operative's days' sales uncollected should not be greater than 1 1/3 times the number of days in the credit period

when no discount is offered. However, if the Co-operative has a discount period (ie. offers a discount for those who pay their account early) the ratio should not be greater than 1 1/3 times the number of days in the discount period. Steps need to be taken to reduce the ratio if it is greater than its acceptable level.

D. Average Days Payable Ratio

A final efficiency ratio is the average days payable ratio. This ratio is calculated to determine how many days it takes for the Co-operative to pay its accounts payable.

This ratio involves three steps. Firstly, the average accounts payable must be determined. To calculate the average accounts payable, take the sum of the beginning and ending accounts payable and divide by two [Average Accounts Payable = (Beginning Accounts Payable + Ending Accounts Payable) / 2].

Secondly, the payables turnover must be calculated. The payables turnover is equal to net purchases divided by the average accounts payable [Payables Turnover = Net Purchases / Average Accounts Payable].

The third step involves dividing the number of working days per year by the payables turnover [Average Days Payable = Number of Working Days / Payables Turnover].

This ratio should be compared to the Co-operative's credit terms. An average days payable ratio which is higher than the credit term may result in higher interest expenses, and/or a lower current ratio.

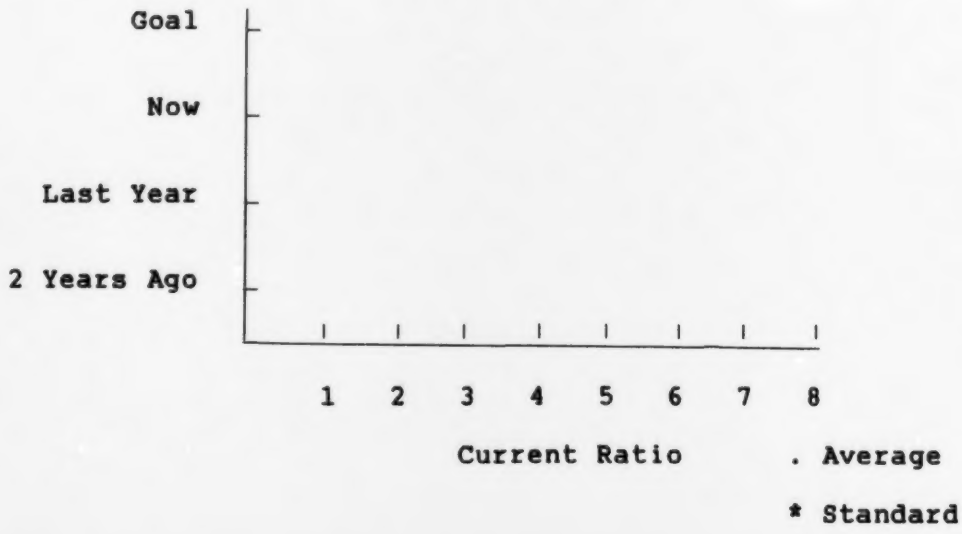
WHERE DO I START?

Now that you have a better understanding of financial ratios, you should apply these ratios to your Co-operative. It is most useful to calculate these ratios for the past two or three years and to plot them on a graph. As mentioned earlier you should compare these ratios to one another and to the average and standard. A graph of the ratios allows you to see if your Co-operative is improving or if it is in need of improvement. It is also advisable to set an obtainable goal, plot it on the graph, and then plan as to how you will attain this goal. If you require any further assistance in calculating the ratios, please refer to page 25.

You should first begin with the liquidity ratios. Please feel free to fill in the charts and graphs below.

YOUR CO-OPERATIVE

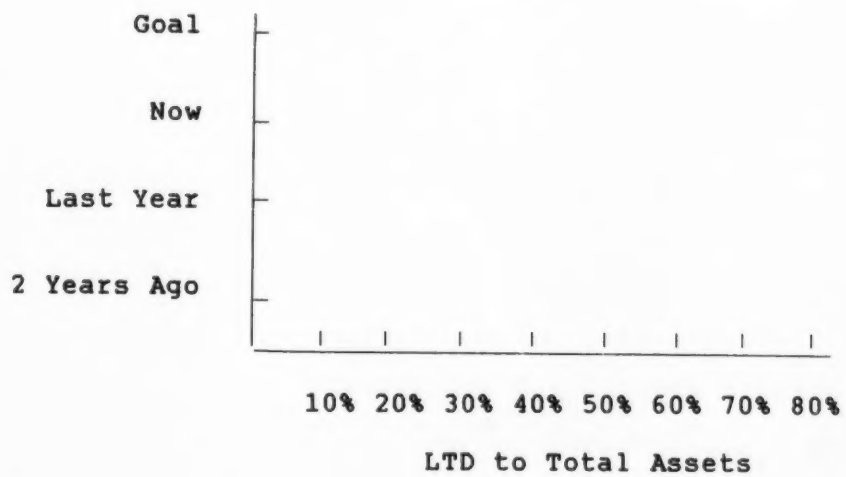
	Now	Last Year	2 Years Ago	Std.	Ave.
1. Current Ratio					
2. Current Asset Turnover					

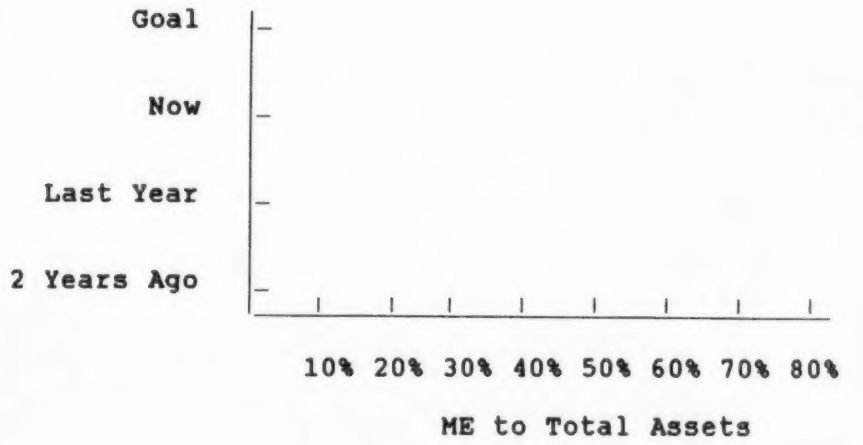


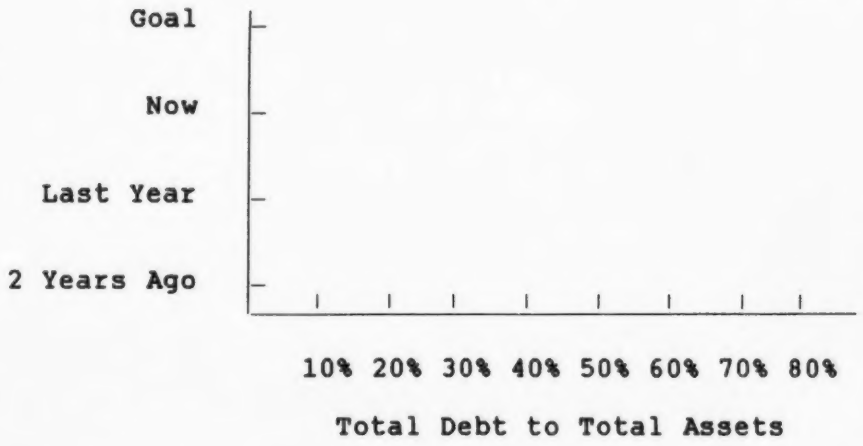
You must examine your operations to find out why there is a variation between your Co-operative's ratio and the standard. Examine such accounts as cash, inventory, and bank loan; are they too high? Are they too low? Whichever the case, corrective action should be taken to bring the ratio closer to the standard.

Secondly, you should calculate and plot the solvency ratios.

	Now	Last Year	2 Years Ago	Std.	Ave.
3. LTD to Total Assets					
4. ME to Total Assets					
5. TD to Total Assets					



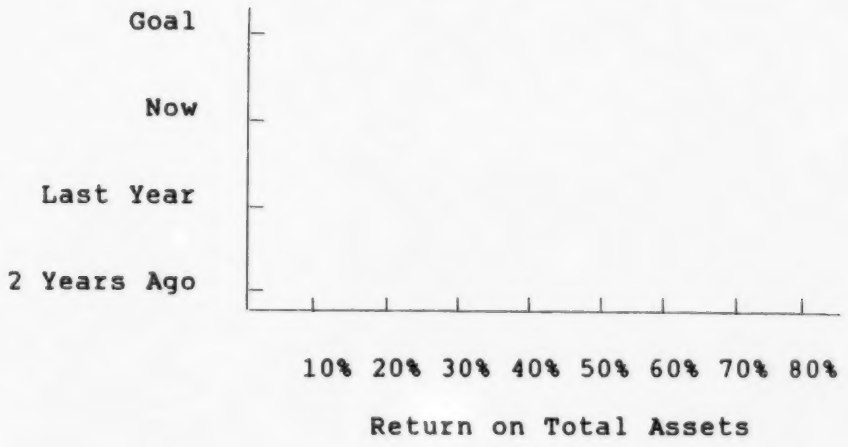

Goal
Now
Last Year
2 Years Ago
10% 20% 30% 40% 50% 60% 70% 80%
ME to Total Assets

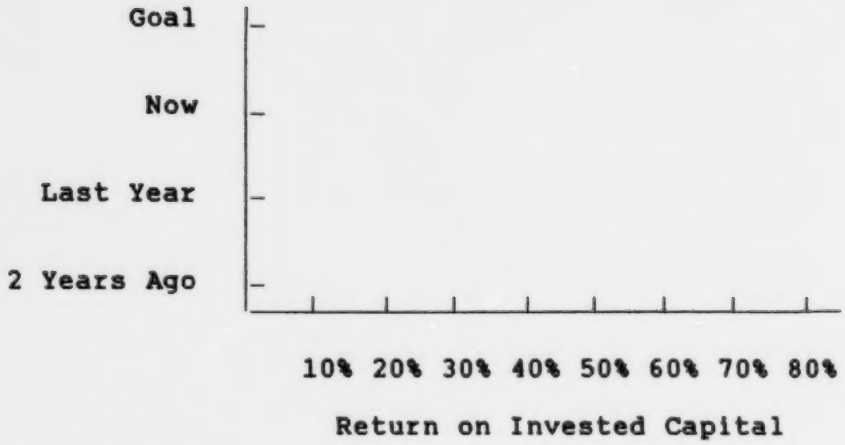

Goal
Now
Last Year
2 Years Ago
10% 20% 30% 40% 50% 60% 70% 80%
Total Debt to Total Assets

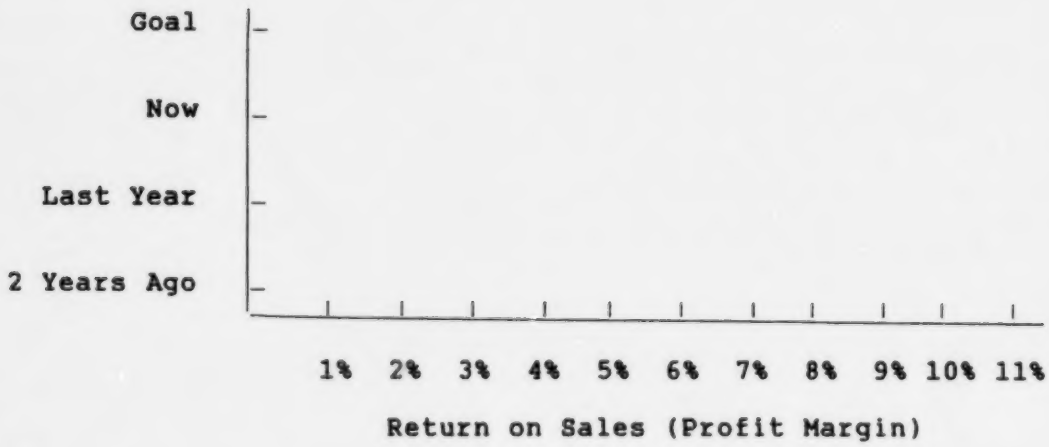
Once again you must examine your operations to find out why there is a variation between your Co-operative's ratio and the standard. Is your equity too high? Is your debt too low? Remember that a Co-operative with 100% equity or 100% debt is very inefficient. A combination of both debt and equity is required for a healthy, efficient Co-operative.

Thirdly, you should calculate and plot the efficiency ratios.

	Now	Last Year	2 Years Ago	Std.	Ave.
6. Return on Total Assets					
7. Return on IC					
8. Return on Sales					




Goal
Now
Last Year
2 Years Ago
10% 20% 30% 40% 50% 60% 70% 80%
Return on Invested Capital


Goal
Now
Last Year
2 Years Ago
1% 2% 3% 4% 5% 6% 7% 8% 9% 10% 11%
Return on Sales (Profit Margin)

Again you must examine your operations to determine why there is a variation. If your return on sales (profit margin) is below the standard, set an obtainable goal for the ratio and then start working toward that goal. You should work at keeping your Co-operative in the top 25% rather than letting it slip into the bottom 75% category.

ANY CO-OPERATIVE

The data in the following financial statements are a reflection of the averages for all reporting Retail Co-operatives in Nova Scotia (except for where noted). Any similarities between your Co-operative and the data presented here are purely coincidental.

These statements are intended to assist anyone involved with a Retail Co-operative in preparing various financial ratios.

ANY CO-OPERATIVE LIMITED
BALANCE SHEET
DECEMBER 31, 1987

ASSETS

	1987	1986
Current:		
Inventory	$146,460	$162,692
Other	$94,060	$94,462
Total Current Assets	$240,520	$257,154
Investments	$109,760	$106,096
Fixed	$246,540	$238,481
TOTAL ASSETS	$596,820	$601,731

LIABILITIES

Current	$170,120	$182,173
Longterm Debt	$133,960	$133,827
TOTAL LIABILITIES	$304,080	$316,000

MEMBERS' EQUITY

Surplus & Reserve	$93,440	$103,173
Shares & Loans	$199,300	$182,558
Total Members' Equity	$292,740	$285,731
TOTAL LIABILITIES & MEMBERS' EQUITY	$596,820	$601,731

ANY CO-OPERATIVE LIMITED
STATEMENT OF INCOME AND EXPENSES
DECEMBER 31, 1987

	1987	1986
Sales	$2,264,720	$2,212,789
Cost of Goods Sold	$1,925,245	$1,883,139
Gross Margin	$339,475	$329,650
Other Income	$14,145	$13,735
TOTAL INCOME	$353,620	$343,385
Expenses:		
Staff	$194,908	$188,077
Occupancy	$67,752	$65,378
Interest	$23,119	$22,309
Promotion & Miscellaneous	$35,321	$34,083
TOTAL EXPENSES	$321,100	$309,847
NET SAVINGS	$32,520	$33,538

The following data has been arbitrarily chosen, it therefore may or may not be representative of the average.

1987	Active Members	= 400 members
1987	% Member Business	= 80%
1987	Accounts Receivable	= $ 57,725
1987	Charge Sales	= $1,585,304
1987	Working Days	= 310 days
1987	Accounts Payable	= $ 83,359
1987	Net Purchases	= $1,909,013
1986	Accounts Payable	= $ 89,265
1987	Receivables Credit Terms	= 2/10, n/30
1987	Payables Credit Terms	= n/30

Day's Sales Uncollected is acceptable since it cannot be greater than 13.3 days (10 days x 1 1/3 = 13.3 days).

Average Days Payable is acceptable since it is less than the payables credit term of 30 days.

ANY CO-OPERATIVE LIMITED
FINANCIAL RATIOS
DECEMBER 31, 1987

1. Income % of Sales = $\frac{\text{Total Income}}{\text{Sales}} \times 100$

$= \frac{\$\ 353,620}{\$2,264,720} \times 100$

$= 15.6\%$

2. Staff % of Income = $\frac{\text{Total Staff Expenses}}{\text{Total Income}} \times 100$

$= \frac{\$194,908}{\$353,620} \times 100$

$= 55.1\%$

3. Occupancy % of Income = $\frac{\text{Total Occupancy Expenses}}{\text{Total Income}} \times 100$

$= \frac{\$\ 67,752}{\$353,620} \times 100$

$= 19.2\%$

4. Interest % of Income = $\frac{\text{Total Interest Expenses}}{\text{Total Income}} \times 100$

$= \frac{\$\ 23,119}{\$353,620} \times 100$

$= 6.5\%$

5. Miscellaneous % of Income = $\frac{\text{Total Miscellaneous Expenses}}{\text{Total Income}} \times 100$

$= \frac{\$\ 35,321}{\$353,620} \times 100$

$= 10.0\%$

6. Savings % of Income = $\frac{\text{Net Savings}}{\text{Total Income}} \times 100$

$= \frac{\$\ 32,520}{\$353,620} \times 100$

$= 9.2\%$

7. Current Ratio = $\frac{\text{Total Current Assets}}{\text{Current Liabilities}} : 1$

$= \frac{\$240,520}{\$170,120} : 1$

$= 1.4 : 1$

8. Current Asset Turnover = $\frac{\text{Sales}}{\text{Total Current Assets}}$ times

$= \frac{\$2,264,720}{\$\ 240,520}$ times

$= 9.4$ times

9. Longterm Debt to Total Assets = $\frac{\text{Longterm Debt}}{\text{Total Assets}} \times 100$

$= \frac{\$133,960}{\$596,820} \times 100$

$= 22.4\%$

10. Members' Equity to Total Assets = $\frac{\text{Total Members' Equity}}{\text{Total Assets}} \times 100$

$= \frac{\$292,740}{\$596,820} \times 100$

$= 49.0\%$

11. Total Debt to Total Assets = $\frac{\text{Total Liabilities}}{\text{Total Assets}} \times 100$

$= \frac{\$304,080}{\$596,820} \times 100$

$= 50.9\%$

12. Return on Total Assets = $\frac{\text{Net Savings}}{\text{Total Assets}} \times 100$

$= \frac{\$ 32,520}{\$596,820} \times 100$

$= 5.4\%$

13. Return on Invested Capital = $\frac{\text{Net Savings}}{\text{Shares \& Loans}} \times 100$

$= \frac{\$ 32,520}{\$199,300} \times 100$

$= 16.3\%$

14. Return on Sales = $\frac{\text{Net Savings}}{\text{Sales}} \times 100$

$= \frac{\$ 32,520}{\$2,264,720} \times 100$

$= 1.4\%$

15. Inventory Turnover = $\frac{\text{Sales}}{\text{Average Inventory}}$ times

$$= \frac{\$\ 2,264,720}{\frac{(\$162,692 + \$146,460)}{2}} \text{ times}$$

$$= \frac{\$\ 2,264,720}{\$\ 154,576} \text{ times}$$

= 14.7 times

16. Sales per Active Member = $\frac{\text{Sales}}{\text{Active Members}}$ x % Member Business

$$= \frac{\$2,264,720}{\$\ 400} \times 80\%$$

= $4,529

17. Days' Sales Uncollected = $\frac{\text{Accounts Receivable}}{\text{Charges Sales}}$ x 365 days

$$= \frac{\$\ 57,725}{\$1,585,304} \times 365 \text{ days}$$

= 13.3 days

18. Average Days Payable = $\frac{\text{Number of Working Days}}{\text{Payable Turnover}}$

$$= \frac{310 \text{ days}}{22}$$

= 14.1 days

Note: Average Inventory = $\frac{\text{1986 Inventory + 1987 Inventory}}{2}$

Average Accounts Payable = $\frac{\text{1986 AP + 1987 AP}}{2}$

Payables Turnover = $\frac{\text{Net Purchases}}{\text{Average AP}}$

TABLE A-11 - Sales and Income as a percentage of Sales for Co-ops with sales under $2m.

CO-OP	SALES	INCOME % OF SALES
A	47	4.3
B	160	23.1
C	1,797	11.9
D	612	15.2
E	2	-0-
F	1,013	20.3
G	514	17.3
H	409	20.8
I	902	18.8
J	1,759	20.0
K	1,237	14.7
L	1,278	17.0
M	1,251	13.4
N	1,752	17.3
O	796	15.6
P	108	29.6
Q	1,226	18.9
R	1,180	18.6
S	582	15.8
T	1,026	17.4
U	1,148	23.1
V	893	16.8
W	45	37.8
X	303	16.8
Y	536	22.2
AVERAGE	823	17.9
STANDARD	1,314	16.9

TABLE A-12 - Expenses and Savings as a percentage of Income for Co-ops with sales under $2m.

CO-OP	STAFF	OCCUPANCY	INTEREST	MISC.	SAVINGS
A					
B	59	22	11	5	3
C	53	9	16	18	4
D	83	37	9	12	(41)
E					
F	49	16	0	10	25
G	55	25	9	13	(2)
H	75	13	5	9	(2)
I	48	21	5	9	17
J	40	22	2	8	28
K	58	11	2	9	20
L	56	18	2	8	16
M	56	21	8	13	2
N	54	19	7	13	7
O	70	11	6	13	-0-
P	31	3	3	38	25
Q	62	16	1	8	13
R	49	26	4	15	6
S	76	24	2	14	(16)
T	56	20	2	11	11
U	54	17	6	8	15
V	69	17	6	11	(3)
W	47	47	0	6	0
X	61	25	10	6	(2)
Y	68	22	1	12	(3)
AVERAGE	58	20	5	12	5
STANDARD	52	17	6	12	13

TABLE A-13 - Nova Scotia Actual Occupancy Expenses by category as a percentage of Occupancy Expenses for Co-ops with sales under $2m.

CO-OP	HEAT, LIGHT, POWER	DEPRECIATION	REPAIRS and MAINTENANCE	OTHER
A				
B	50.0	25.0	-0-	25.0
C	30.0	20.0	-0-	50.0
D	31.4	8.6	34.3	25.7
E				
F	37.5	21.9	15.6	25.0
G	36.4	18.2	18.2	27.2
H	45.5	9.1	18.2	27.2
I	34.3	22.8	14.3	28.6
J	25.3	37.9	8.9	27.9
K	30.0	5.0	20.0	45.0
L	35.0	22.5	25.0	17.5
M	40.0	11.4	8.6	40.0
N	29.8	24.6	24.6	21.0
O	61.5	-0-	15.4	23.1
P	16.8	-0-	21.0	62.2
Q	47.4	13.2	5.3	34.1
R	42.1	31.6	17.5	8.8
S	40.9	13.6	13.6	31.9
T	36.1	11.1	25.0	27.8
U	11.4	36.4	15.9	36.3
V	36.0	24.0	4.0	36.0
W	25.0	12.5	37.5	25.0
X	38.5	15.4	7.7	38.4
Y	30.8	7.7	26.9	34.6
AVERAGE	35.3	17.1	16.4	31.2
STANDARD	33.9	21.0	15.3	29.8

TABLE A-14 - Nova Scotia Actual Liquidity Ratios by Co-op for Co-ops under $2m.

CO-OP	CURRENT RATIO	CURRENT ASSET TURNOVER
A		
B	0.4	10.0
C	1.2	4.6
D	0.8	9.6
E		
F	5.1	6.4
G	1.3	7.1
H	8.2	3.3
I	1.7	14.1
J	3.1	9.3
K	11.2	4.4
L	2.4	6.2
M	1.6	6.8
N	0.6	20.6
O	1.4	7.7
P	1.7	2.6
Q	7.3	3.5
R	1.4	10.6
S	1.7	8.8
T	0.7	15.1
U	8.9	5.2
V	2.0	3.9
W	2.2	3.5
X	4.0	6.9
Y	5.2	5.2
AVERAGE	3.2	7.6
STANDARD	3.5	9.4

TABLE A-15 - Nova Scotia Actual Solvency Ratios by Co-op for Co-ops under $2m.

CO-OP	LTD TO TOTAL ASSETS	MEMBERS EQUITY TO TOTAL ASSETS	TOTAL DEBT TO TOTAL ASSETS
A			
B	3.0	(27.2)	127.2
C	5.6	31.9	68.1
D	-0-	30.9	69.1
E			
F	-0-	86.3	13.7
G	19.5	42.9	57.1
H	-0-	89.9	10.1
I	20.9	61.4	38.6
J	-0-	85.4	14.6
K	25.6	68.9	31.1
L	0.3	71.4	28.6
M	12.7	48.9	51.1
N	26.2	9.9	90.1
O	2.4	53.3	46.7
P	-0-	41.5	58.5
Q	-0-	88.6	11.4
R	12.5	58.2	41.8
S	-0-	67.8	32.2
T	-0-	29.5	70.5
U	21.2	74.9	25.1
V	36.3	35.8	64.2
W	-0-	70.0	30.0
X	-0-	82.8	17.2
Y	-0-	88.4	11.6
AVERAGE	8.1	56.1	43.9
STANDARD	15.1	52.8	47.2

TABLE A-16 - Nova Scotia Actual Efficiency & Profitability Ratios by Co-op for under $2m.

CO-OP	RETURN ON TOTAL ASSETS	RETURN ON INVESTED CAPITAL	RETURN ON SALES
A			
B	3.0	7.7	0.6
C	1.7	7.1	0.5
D	(34.5)	(92.7)	(6.2)
E			
F	22.6	42.8	5.0
G	(1.3)	(11.8)	(0.4)
H	(1.3)	(4.2)	(0.5)
I	13.5	34.5	3.2
J	22.8	46.4	5.5
K	7.9	21.2	2.9
L	11.3	58.6	2.6
M	0.9	2.9	0.2
N	9.9	46.0	1.3
O	-0-	-0-	-0-
P	19.5	47.1	7.4
Q	7.4	64.5	2.5
R	4.6	10.0	1.1
S	(12.7)	(17.4)	(2.6)
T	13.9	118.7	1.9
U	6.5	12.5	3.6
V	(1.0)	(4.5)	(0.4)
W	-0-	-0-	-0-
X	(1.6)	(2.3)	(0.3)
Y	(1.7)	(3.4)	(0.6)
AVERAGE	4.0	16.7	1.2
STANDARD	10.0	26.9	2.3

TABLE A-17 - Nova Scotia Actual Inventory Turnovers and Sales per Active Members by Co-op for under $2m.

CO-OP	INVENTORY TURNOVER	SALES PER ACTIVE MEMBER
A		2.8
B	17.8	2.7
C	9.3	11.9
D	13.0	2.9
E		0.5
F	8.1	4.1
G	12.7	4.5
H	5.3	1.6
I	19.4	3.1
J	15.1	2.6
K	6.9	3.4
L	16.1	3.5
M	14.2	2.8
N	25.4	1.5
O	9.1	1.7
P		2.7
Q	8.9	
R	13.6	1.8
S	10.6	2.3
T	23.1	2.2
U	9.3	2.2
V	6.7	2.6
W	6.0	
X	9.0	6.1
Y	10.2	2.6
AVERAGE	12.3	3.1
STANDARD	13.8	4.3

TABLE B-11 - Sales and Income as a percentage of Sales for Co-ops with sales over $2m.

CO-OP	SALES	INCOME % OF SALES
A	3,517	15.4
B	2,361	17.7
C	3,112	18.5
D	5,507	16.3
E	2,787	17.7
F	2,866	16.9
G	5,559	12.7
H	5,888	19.1
I	2,131	13.9
J	2,334	18.3
K	3,459	16.7
L	5,266	15.7
M	2,385	17.5
AVERAGE	3,629	16.6
STANDARD	4,726	15.8

TABLE C-11 - for Direct Charge stores

A	5,285	15.8
B	2,715	13.0
C	3,142	13.2
D	1,658	15.3
E	8,278	14.6
F	4,860	12.0
G	5,028	13.8
H	9,136	15.0
I	1,316	14.8
AVERAGE	4,602	14.2
STANDARD	4,343	13.0

TABLE B-12 - Expenses and Savings as a percentage of Income for Co-ops with sales over $2m.

CO-OP	STAFF	OCCUPANCY	INTEREST	MISC.	SAVINGS
A	51	21	18	26	(16)
B	61	17	17	5	0
C	49	15	6	9	21
D	50	20	7	14	9
E	64	11	6	7	12
F	57	17	3	9	14
G	45	20	7	10	18
H	39	18	6	8	29
I	46	21	12	14	7
J	60	15	3	10	12
K	56	18	6	13	7
L	53	27	4	15	1
M	45	15	1	9	30
AVERAGE	52	18	7	12	11
STANDARD	48	18	7	11	16

TABLE C-12 - for Direct Charge stores

A	58	21	14	8	(1)
B	64	13	1	8	14
C	47	26	9	9	9
D	52	16	0	15	17
E	58	18	6	6	12
F	64	20	3	9	4
G	56	20	3	5	16
H	64	22	7	6	1
I	70	31	15	9	(25)
AVERAGE	59	21	7	8	5
STANDARD	55	22	5	8	10

TABLE B-13 - Nova Scotia Actual Occupancy Expenses by category as a percentage of Occupancy Expenses for Co-ops with sales over $2m.

CO-OP	HEAT, LIGHT, POWER	DEPRECIATION	REPAIRS and MAINTENANCE	OTHER
A	-0-	43.0	-0-	57.0
B	28.8	23.7	11.9	35.6
C	23.3	32.6	18.6	25.5
D	23.3	50.0	9.1	17.6
E	21.4	51.8	7.1	19.7
F	42.2	20.5	15.7	21.6
G	19.2	27.1	2.9	50.8
H	22.4	32.7	21.5	23.4
I	22.9	36.1	19.7	21.3
J	35.9	20.3	9.4	34.4
K	28.2	30.1	18.4	23.3
L	28.3	28.8	26.5	16.4
M	30.6	29.0	14.5	25.9
AVERAGE	25.1	32.7	13.5	28.7
STANDARD	21.9	36.6	10.2	31.3

TABLE C-13 - for Direct Charge stores

A	29.9	34.5	21.8	13.8
B	38.3	12.8	23.4	25.5
C	26.4	40.6	19.8	13.2
D	41.0	10.3	17.9	30.8
E	25.3	30.3	15.0	29.4
F	28.2	29.0	21.4	21.4
G	22.3	35.3	20.9	21.5
H	31.9	27.1	18.0	23.0
I	36.1	32.8	16.4	14.7
AVERAGE	31.0	28.1	19.4	21.5
STANDARD	25.6	35.0	20.7	18.7

TABLE B-14 - Nova Scotia Actual Liquidity Ratios by Co-op for Co-ops over $2m.

CO-OP	CURRENT RATIO	CURRENT ASSET TURNOVER
A	0.9	11.3
B	1.2	3.8
C	6.3	9.0
D	1.3	9.0
E	3.4	12.9
F	8.1	7.2
G	3.3	9.4
H	3.9	7.9
I	1.2	6.4
J	6.2	5.4
K	2.1	7.2
L	0.5	9.1
M	3.7	12.2
AVERAGE	3.2	8.5
STANDARD	3.6	9.1

TABLE C-14 - for Direct Charge stores

A	0.5	17.5
B	2.6	18.2
C	2.5	11.9
D	2.3	18.0
E	1.4	23.1
F	0.7	16.9
G	1.7	14.1
H	0.7	12.6
I	0.3	14.3
AVERAGE	1.4	16.3
STANDARD	1.6	14.3

TABLE B-15 - Nova Scotia Actual Solvency Ratios by Co-op for Co-ops over $2m.

CO-OP	LTD TO TOTAL ASSETS	MEMBERS EQUITY TO TOTAL ASSETS	TOTAL DEBT TO TOTAL ASSETS
A	47.3	22.3	77.7
B	9.8	33.8	66.2
C	34.7	59.4	40.6
D	24.7	47.4	52.6
E	16.3	71.7	28.3
F	-0-	92.4	7.6
G	14.3	71.2	28.8
H	28.5	61.8	38.2
I	25.7	27.5	72.5
J	1.3	87.4	12.6
K	17.1	60.8	39.2
L	47.4	(15.3)	115.3
M	-0-	89.2	10.8
AVERAGE	20.5	54.6	45.4
STANDARD	24.6	59.3	40.7

TABLE C-15 - for Direct Charge stores

A	31.6	29.8	70.2
B	-0-	82.3	17.7
C	35.3	51.6	48.4
D	-0-	83.5	16.5
E	32.6	51.1	48.9
F	28.9	43.6	56.4
G	13.2	64.7	35.3
H	25.5	34.9	65.1
I	37.8	(4.0)	104.0
AVERAGE	22.8	48.6	51.4
STANDARD	25.8	53.3	46.7

TABLE B-16 - Nova Scotia Actual Efficiency & Profitability Ratios by Co-op for over $2m.

CO-OP	RETURN ON TOTAL ASSETS	RETURN ON INVESTED CAPITAL	RETURN ON SALES
A	(7.5)	(31.3)	(2.5)
B	-0-	-0-	-0-
C	12.8	72.3	3.9
D	4.8	14.6	1.5
E	10.8	27.0	2.0
F	10.6	18.4	2.4
G	10.1	18.0	2.2
H	16.6	66.5	5.5
I	3.2	15.4	0.9
J	8.2	13.6	2.2
K	3.9	15.1	1.2
L	0.5	2.9	0.2
M	26.1	86.5	5.4
AVERAGE	7.7	24.5	1.9
STANDARD	9.2	34.9	2.5

TABLE C-16 - for Direct Charge stores

A	(0.5)	(2.0)	(0.1)
B	15.2	35.2	1.8
C	4.9	0.2	1.2
D	17.8	27.7	2.6
E	9.1	23.7	1.7
F	1.3	4.2	0.4
G	11.1	27.0	2.1
H	0.6	1.6	0.2
I	(12.0)	(58.5)	(3.6)
AVERAGE	5.3	6.6	0.7
STANDARD	5.8	10.5	1.2

TABLE B-17 - Nova Scotia Actual Inventory Turnover and Sales per Active Members by Co-op for over $2m.

CO-OP	INVENTORY TURNOVER	SALES PER ACTIVE MEMBER
A	19.5	1.3
B	8.5	2.7
C	13.4	3.8
D	16.3	6.1
E	18.9	1.9
F	11.4	2.3
G	18.6	11.5
H	13.2	4.1
I	10.7	5.0
J	8.5	3.9
K	13.4	3.1
L	11.6	
M	18.1	3.0
AVERAGE	14.0	4.1
STANDARD	16.1	7.1

TABLE C-17 - for Direct Charge stores

A	22.6	4.4
B	25.1	5.8
C	20.7	4.0
D	24.0	3.6
E	14.5	4.9
F	19.6	3.6
G	21.2	4.3
H	26.4	4.7
I	16.8	3.9
AVERAGE	21.2	4.4
STANDARD	20.5	4.0